UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

July 13, 2007

Mr. Harry Ruth
For the Friends of Lake Anna
C/O 230 Heather Drive
Bumpass, VA. 23024

Re: Dominion North Anna Power Station
VPDES Permit No. VA0052451

Dear Mr. Ruth:

Thank you for your letter of June 24, 2007, concerning the above-referenced Virginia Pollutant Discharge Elimination System (VPDES) permit for the Dominion North Anna Power Station (North Anna plant). Your letter reiterates previous requests for the U.S. Environmental Protection Agency (EPA) to answer several questions related to regulation of the thermal discharge from the North Anna plant. These questions were originally contained in an October 2, 2006 letter from Ellie Irons, the Virginia Department of Environmental Quality (VaDEQ) official who presided over the Coastal Zone Management Act (CZMA) proceedings related to Dominion's application to the Nuclear Regulatory Commission (NRC) for an "early site permit" for a planned expansion of the North Anna plant.

As stated in my November 9, 2006 response to Ms. Irons, and in subsequent correspondence with you and Congressman Cantor, the CZMA proceeding was not the appropriate forum for EPA to formally review or re-evaluate conditions in the current or proposed VPDES permit for the North Anna plant.

As you know, Virginia was approved to administer the Clean Water Act's National Pollutant Discharge Elimination System (NPDES) program pursuant to a 1975 "Memorandum of Understanding" (MOU) between EPA and the Virginia State Water Control Board. As an approved state, VaDEQ is primarily responsible for implementing the NPDES program in the Commonwealth, under EPA oversight as specified in the MOU. In its oversight role, EPA has the discretion to comment and/or object to proposed VPDES permits. The MOU affords EPA an opportunity to review draft VPDES permits before public notice, and another opportunity to review any substantive changes to the draft permit, as well as VaDEQ's responses to any "significant adverse comments." In addition, EPA may submit comments during the public comment period.

VaDEQ's proposed permit for the Dominion North Anna permit is subject to public comment until August 1, 2007, with a public hearing scheduled for July 18, 2007. EPA is currently in the process of reviewing VaDEQ's proposed North Anna permit and supporting materials, and is considering whether to submit comments during the public comment period. EPA will also carefully review VaDEQ's summary of the written public comments and comments made at the hearing, as well of VaDEQ's response to those comments.

EPA has not yet completed its review of the North Anna permit. However, in light of your strong desire for an EPA response prior to VaDEQ's July 18 public hearing, we are providing responses to the questions in your June 24, 2007 letter based on the information available at this time. **(**The questions are noted in bold below).

1. **Whether the "hot side" *(cooling lagoons)* of the lake constitutes "Waters of the United States" within the meaning of the Clean Water Act, and thus within the protection of the NPDES-VPDES permit program?**

New related May 2007 Question "Whether the EPA can delegate to the Commonwealth of Virginia the ability to issue a VPDES permit imposing thermal effluent limitations on the discharge by Dominion Nuclear North Anna, LLC from its reactors at its North Anna Power Station to cooling ponds or lagoons built on top of and incorporating 'waters of the U.S.' coming from a minimum of ten (10) public streams that were dammed to serve as cooling ponds/lagoons"?

NPDES permitting authorities, both EPA and NPDES-approved states such as Virginia, are authorized to issue permits to point sources that discharge pollutants to "waters of the United States." EPA's regulation defining "waters of the United States," 40 C.F.R. 122.2, and Virginia's similar regulation defining "surface waters," 9 VAC 25-31-10, both include lakes, rivers, and streams, as well as impoundments of such waters. However, both EPA's regulatory definition of "waters of the United States," and Virginia's analogous regulatory definition of "surface waters" contain an exclusion for "waste treatment systems, including treatment ponds or lagoons designed to meet [Clean Water Act] requirements."

Lake Anna was created in 1971 (i.e., before the 1972 enactment of the Clean Water Act) by the construction of a dam on the North Anna River. As you note, the resulting impoundment of water was designed to provide cooling water for the North Anna plant, as well as a cooling lagoon for the thermal discharge from the plant. The water impoundment is divided into two sections: the 9400-acre "main reservoir" of Lake Anna; and an interconnected series of three cooling lagoons. The 3400-acre cooling lagoons are joined by channels and separated by dikes from the main reservoir of Lake Anna.

In past VPDES permits issued to the North Anna plant, as well as in the proposed permit reissuance, VaDEQ has determined that the cooling lagoons are a "waste heat treatment facility" (WHTF) for the plant's thermal discharge, subject to the "waste treatment system" exclusion in the 9 VAC 25-31-10 definition of "surface waters." VaDEQ recognizes that the

main reservoir of Lake Anna, as well as tributaries flowing into both the main reservoir and cooling lagoons/WHTF, are surface waters, subject to the state's water quality standards and VPDES permitting requirements. Accordingly, the VPDES permit for the North Anna plant regulates thermal discharges out of the cooling lagoons into the main reservoir of Lake Anna, but not discharges from the North Anna plant into the cooling lagoons.

By letter dated November 30, 2006, the Attorney General of Virginia issued an advisory opinion confirming VaDEQ's determination that the cooling lagoons are a WHTF, subject to the "waste treatment system" exclusion. The Attorney General stated VaDEQ does not have "legal authorization" to regulate thermal discharges into the cooling lagoons/WHTF.

The federal regulation addressing the waste treatment system exclusion, 40 CFR 122.2, provides as follows:

> Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA (other than cooling ponds as defined in 40 C.F.R. 423.11(m) which also meet the criteria of this definition) are not waters of the United States.

When this regulation was first promulgated in 1979, EPA stated that "under some circumstances, it is appropriate to impound navigable streams in order to create a cooling pond or lake." 44 *Federal Register* 32854, 32858 (June 7, 1979). In 1980, the regulation was briefly amended to include the following sentence: "This exclusion applies only to manmade bodies of water which neither were originally created in waters of the United States (such as disposal area in wetlands) nor resulted from the impoundment of waters of the United States." 45 *Federal Register* 33298 (May 19, 1980). However, this sentence was suspended two months later. In the *Federal Register* notice announcing the suspension, EPA stated that industry petitioners "objected that the language of the regulation would require them to obtain permits for discharges into existing waste treatment systems such as power plant ash ponds, which had been in existence for many years. In many cases, they argued, EPA has issued permits for discharges from, and not into, these systems." EPA agreed that "the regulation should be carefully re-examined and that it may be overly broad." 45 Federal Register 48620 (July 21, 1980).

To date, there has been no additional federal rulemaking to clarify whether, or under what circumstances, the "waste treatment system" exclusion may include cooling ponds, lakes, or lagoons that are created in waters of the United States, or that result from the impoundment of waters of the United States. Given this regulatory background, NPDES permitting authorities, both EPA and approved states, have some discretion in determining whether particular cooling water impoundments qualify for the "waste treatment system" exclusion from the definition of "waters of the United States."

In the fact sheet accompanying the North Anna VPDES permit, VaDEQ explained its rationale for determining that the cooling lagoons are a WHTF that is subject to the "waste treatment system" exclusion from the regulatory definition of "surface waters":

> The State Corporation Commission (SCC) in authorizing the impoundment of the North Anna River

specifically acknowledged the creation and distinction between the 9,600 acre lake and the 3,400 acre cooling lagoons. In accordance with the definition of Surface Waters in 9 VAC 25-31-10, the lagoons are considered waste treatment facilities and not surface waters.

The fact sheet also states that since the creation of the cooling lagoons/WHTF:

Dominion Virginia Power has used the facility for heat dissipation from the water prior to its reentry into Lake Anna. Dominion has monitored the temperature of these waters for the purpose of internal controls and model verification.

Because the only waste being treated in the WHTF is temperature, Dominion has allowed adjacent landowners access and use of the water. There is no public access to the WHTF. Terms for access and use are defined in a signed deed agreement for each property owner. The terms of the agreement are that the uses of the WHTF shall not contravene the purpose of the facility as a cooling lagoon.

With this reissuance, representatives of adjacent land owners have asked that the permit contain specific maximum temperature levels in the WHTF so as to protect the health of the people using it for recreation. Because the WHTF is a treatment lagoon that is designed and used for its intended purposes for heat dissipation, staff does not have basis for temperature controls since the facility is being used within its defined design parameters.

As noted in the fact sheet, the Attorney General of Virginia has confirmed VaDEQ's interpretation of the state regulation, and has concluded that the state cannot place temperature restrictions on the cooling lagoons/WHTF. The Attorney General's formal advisory opinion noted that the "WHTF was designed, built, and permitted by the State Water Control Board to be used as a treatment facility for waste heat" and "Dominion considers WHTF to be an integral part of the power station."

EPA has not objected to past permits, which have also been based on VaDEQ's application of the waste treatment system exclusion to exempt NPDES regulation of thermal discharge into the cooling lagoons/WHTF. As previously stated, EPA has not yet completed its review of the pending North Anna permit reissuance.

2. **Whether the VPDES permit and the section 316(a) variance on the temperature standard accompanying it are warranted for a new or current (nuclear reactor) unit that may raise the temperature. If the temperature requirement is delegated to the State under the VPDES program, what are the temperature limits, if any, which may be set by the state for the proposed Unit 3?**

CWA 316(a) authorizes permittees to apply for, and permitting authorities to grant, a variance from the otherwise applicable thermal discharge limit, provided that the alternative limit is protective of the "balanced indigenous population of shellfish, fish and wildlife" in the receiving waters.

In 1986, following review of the permittee's CWA 316(a) demonstration study, VaDEQ granted a CWA 316(a) variance for the VPDES permit for the North Anna plant. According to

VaDEQ, the permittee made the requisite showing that the thermal variance was protective of the balanced indigenous shellfish, fish and wildlife community of Lake Anna. VaDEQ's proposed permit continues the 316(a) variance, which is based on a "heat rejected" limit (calculated in accordance with Part I.B.3.e. of the Proposed Permit). EPA is currently reviewing the permit record, including temperature and fisheries monitoring data, to ensure that the record supports VaDEQ's determination that the proposed "heat rejected" variance is protective of the "balanced indigenous population" of Lake Anna.

As you note, the owner of the North Anna plant has proposed to expand operations by adding an additional reactor unit. However, the licensing, construction, and operation of this new unit will not be completed, if at all, until several years after the expiration of the current proposed permit. Thus, it is premature for EPA to conduct a review of the appropriate thermal limit in a future VPDES permit governing discharges from the expanded facility, lacking a specific permit application or proposed permit governing this facility.

3. Whether, under the Clean Water Act, a NPDES permit would require monitoring of the temperature where the cooling water discharge enters the Lake (at the end of the discharge canal) or at Outfall 001, as is presently done under the VPDES?.

A NPDES permit includes both monitoring requirements and effluent limits. The effluent limits, such as the thermal discharge limit, apply at the discharge point to the "waters of the United States" (or "surface waters" under the Virginia regulations). As noted above, VaDEQ considers that the cooling lagoons serving the North Anna plant are a "waste heat treatment facility" and not a "surface water." Thus, according to VaDEQ, the CWA 316(a) thermal variance in the proposed VPDES permit applies to the discharge from the cooling lagoons into the main reservoir of Lake Anna, and not at the end of the plant's discharge canal into the cooling lagoons.

With regard to monitoring requirements, NPDES permitting authorities may require monitoring within the permitted facility (including within a waste treatment system), as well as at and beyond the discharge point into the waters of the United States. For example, the proposed North Anna permit requires monitoring of the "heat rejected" limit at the discharge canal (Internal Outfall 101), and the "Post 316(a) Monitoring" provision requires the permittee to conduct temperature and biological monitoring in the cooling lagoons/WHTF, as well as in the main reservoir of Lake Anna and the North Anna River.

4. Whether the state administration of the VPDES permit program, either as an enforceable policy of the Virginia Coastal Resources Management Program or as a delegated program under the Clean Water Act, gives the state any discretion over the stringency of the standards to be applied insofar as temperature, pollutants, and possibly flow are concerned?

As provided by CWA Section 303, Virginia is authorized to adopt water quality

standards (WQS) to protect the lakes, rivers, streams and other waters of the Commonwealth. These WQS must include: (a) designated uses for waters, such as water supply, recreation, fish propagation, agriculture, and navigation; (b) water quality criteria, which define the amounts of pollutants the waters may contain without impairing their designated uses; and (c) antidegradation requirements, which protect existing uses and otherwise limit degradation of waters.

Under CWA Section 304(a), EPA has developed recommended water quality criteria, which serve as guidance for Virginia and other states to use in deriving criteria to protect states' adopted designated uses. States have the discretion to adopt or modify EPA's recommended water quality criteria, or adopt their own water quality criteria -- so long as the state's criteria are based on sound scientific rationale and protect the designated use. Under CWA Section 303, each state's WQS is subject to EPA approval, and review on a triennial basis.

As stated above, VaDEQ has been approved to administer the NPDES program, which includes responsibility for issuing, enforcing, and renewing permits in compliance with Clean Water Act requirements. Whether NPDES permits are issued by EPA or approved states, the terms and conditions of all permits must be consistent with all applicable Clean Water Act requirements – including EPA-approved WQS governing temperature and other pollution discharges.

Clean Water Act Section 316(a) gives permitting programs the authority to grant a thermal variance upon the permittee's showing that an alternative thermal discharge limit is protective of the "balanced indigenous population of shellfish, fish, and wildlife" in the receiving waters. This standard for the granting of a CWA 316(a) variance is the same for EPA and approved states.

5. **The question is under the NPDES federal program, would the "hot side" be subject to monitoring requirements? If the answer is "yes", does the law or the NPDES regulation give states any discretionary authority regarding monitoring stipulations in the VPDES program? Please elaborate.**

As noted in the response to Question 3, above, both EPA and state permitting authorities may require monitoring both at the outfall to the waters of the U.S., and at internal monitoring points. The "Effluent Limitations and Monitoring Requirements" provision in the proposed North Anna permit requires monitoring at several internal outfalls into the discharge canal that then discharges into the cooling lagoons/WHTF (e.g., Outfalls 101, 103, 104, 105, 108, 109, 110, 112, and 113). The "Post 316(a) Monitoring" provision in the permit requires monitoring at a minimum of three locations in the cooling lagoons/WHTF.

6. Is there any provision in the Clean Water Act which allow this difference in the definitions in a federal program which has been delegated to a state?

As noted above, states with approved NPDES programs are required to issue and enforce permits that comply with all applicable Clean Water Act requirements.

Again, thank you for your interest in the environmental protection of Lake Anna.

Sincerely,

Jon M. Capacasa, Director
Water Protection Division

cc: E. Gilinsky, Virginia Department of Environmental Quality
Congressman Eric Cantor's Office